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**US4585572**

Biblio

Desc

Claims



Reversible phase change composition for storing thermal energy

Patent Number: ☐ [US4585572](#)Publication
date: 1986-04-29

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Applicant(s): DOW CHEMICAL CO (US)

Requested
Patent: IL73138Application
Number: US19830540726 19831011Priority Number
(s): US19830540726 19831011IPC
Classification: C09K3/18EC
Classification: C09K5/06BEquivalents: AU3405484, AU551906, CA1242577, DE3465204D, ☐ [DK164112B](#), DK164112C,
☐ [DK487284](#), ☐ [EP0142028](#), B1, ☐ [ES8802070](#), IN161738, JP1034550B, JP1550769C,
☐ [JP60101167](#), KR8601895, NO160789B, NO160789C, NO844057, NZ209739, ZA8407844

Abstract

A reversible liquid/solid phase change composition for storing thermal energy. The composition comprises at least one hydrated inorganic salt selected from a salt or mixture of salts that are subject to segregation of its chemical components during repeated freezing and thawing cycles, and a surface active thickening agent in the form of a cationic surfactant and selected from an amine, salts of the amine, or a quaternary ammonium salt of the amine, wherein the thickening agent is present in the hydrated salt in an amount sufficient to form a micelle structure throughout the hydrated salt to prevent such segregation.

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73138	מספר: Number
2 X 1984	תאריך: Date
הוקדם/נדחה Ante/Post-dated	

50874/84

(שם המבקש, מענו ולגבי גוף מאגד - מקום התאגדותו)
(Name and address of applicant, and in case of body corporate-place of incorporation)

THE DOW CHEMICAL COMPANY,
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8005

שמה הוא העברה מאת הממציאים
of an invention the title of which is assignment by the inventors
1. George A. Lane 2) Arthur S. Teot 3) Harold E. Rossow
Owner, by virtue of

תערוכה בעלת חילוף פזה הניתן להפיכה לאחסון אנרגיה חרמית.

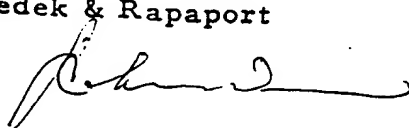
בעברית
(Hebrew)

REVERSIBLE PHASE CHANGE COMPOSITION FOR STORING THERMAL
ENERGY

(באנגלית)
(English)

hereby apply for a patent to be granted to me in respect thereof.

נבקש בזאת כי ינתן לי עליה פטנט

• בקשת חלוקה - Application of Division		• בקשת פטנט מוסף - Application for Patent Addition		• דרישה דין קדימה Priority Claim		
מבקשת פטנט from Application No. dated		לבקשה/לפטנט to Patent/Appl. No. dated		מספר/סימן Number/Mark	תאריך Date	מדינת האגוד Convention Country
• יפוי כח: כללי / מיוחד - רצוף בזה / עוד יגש P.O.A.: Personal/Individual-attached/technical-attached הוגש בענין filed in case		המען למסירת מסמכים בישראל Address for Service in Israel Cohen Zedek & Rapaport P.O. Box 33116 Tel Aviv		540,726	11.10.1983	U.S.A.
חתימת המבקש Signature of Applicant Cohen Zedek & Rapaport 		1984 October 1st of the year of היום This				
BY:		לשימוש הלשכה For Office Use Publication Sealing				

1. A thermal energy storage material comprising at least one hydrated inorganic salt having a phase change transition temperature in the range of from greater than 0°C to 140°C, wherein said hydrated inorganic salt or mixture of salts undergoes segregation of its chemical components during repeated cycles of freezing and thawing, and a surface active thickening agent in the form of a cationic surfactant and used in an amount sufficient to form a micelle structure throughout the storage material to prevent said segregation.

2. The storage material of Claim 1, wherein said surfactant is selected from the group consisting of: (a) an amine corresponding to the formula



R_1 is at least about a C_{16} aliphatic group which may be branched or straight chained and which may be saturated or unsaturated;